

## PATENT COOPERATION TREATY

## PCT

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 9991		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/GB2004/002686		International filing date (day/month/year) 23.06.2004		Priority date (day/month/year) 17.07.2003
International Patent Classification (IPC) or national classification and IPC C07C51/12, B01J23/46, C07C53/08				
Applicant BP CHEMICALS LIMITED et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input checked="" type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  26.01.2005		Date of completion of this report  19.09.2005		
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Grammenoudi, S  Telephone No. +49 89 2399-8324		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/002686

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-17 as originally filed

**Claims, Numbers**

1-27 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-26
Inventive step (IS)	Yes: Claims	
	No: Claims	1-26
Industrial applicability (IA)	Yes: Claims	1-26
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Box No. VI Certain documents cited**

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**1. Certain published documents (Rule 70.10)**

and /or

**2. Non-written disclosures (Rule 70.9)**

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2004/002686

D1= EP-A-0 849 250  
D2= EP-A-0 643 034  
D3= EP-A-0 752 406  
D4= EP-A-1 099 680  
D5= EP-A-1 099 681  
D6= WO-A-03/104179 (P-document)  
D7= US-A-5 281 751  
D8= GB-A-1 276 326

**SECTION VI**

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (day/month/year)
WO-A-03/104179	18.12.03	25.05.03	06.06.02

The present application claims priority rights from 17.07.03. This opinion is given taking for granted that this priority date is valid. If this is not so, the cited document above would become very relevant in the assessment of the patentability of the present application when it enters the national phase.

**SECTION V**

1. The present application relates to a catalyst system and a process for producing acetic acid by carbonylation of methanol in the presence of this catalyst system.
2. Documents D1-D5, D7 and D8 disclose catalyst systems and processes for the production of acetic acid which include all the features of present claims 1, 21 and 27. More particularly, hexachloroiridic acid ( $H_2IrCl_6$ ), acetic acid and propionic acid - all three falling within the term "non-hydrohalogenoic acid" used in claim 1 - are present in the reaction mixture of the processes according to D1-D5 (see D1, claims 1-16 and page 4, line 49; D2, claims 1-10, page 3, line 5, Experiments A, B, D, F, G, H, I, J K, L and M, Examples 1-20, Tables 2b, 3 and 5-7; D3, claims 1-10, page 3, line 42, Tables 1, 3 and 9; D4, claim 1, page 5, lines 9-10 and Table; D5, claim 1,

page 6, lines 39-40 and Table). In the process according to D7 for producing acetic acid (cf. D7, claim 1), iridium can be used as a catalyst (cf. D7, column 6, lines 37-41) and a carboxylic acid may be present in the reaction mixture (cf. D1, column 8, lines 29-36). Finally, the catalyst system disclosed in D8 comprises iridium (cf. D8, claim 1), methyl iodide (cf. D8, page 5, 61-67) and a monocarboxylic acid having 2-6 carbon atoms (cf. D8, page 5, lines 93-104).

It is to be noted that the teaching of a prior art document is not confined to the specific working examples but embraces any information in the description and claims enabling a person skilled in the art to carry out the invention. Moreover, characteristics of a particular intended use cannot be considered as technical features in determining novelty (see PCT Guidelines IV-7.6.). For instance, the expression "for the production of acetic acid" used in present claim 1 and the term "promoter" of claims 1 and 27 do not restrict the scope of the catalyst system and the non-hydrohalogenoic acid respectively. When assessing novelty of present claim 1, only the following features are of relevance: A system (composition) comprising iridium, methyl iodide and at least one non-hydrohalogenoic acid.

Accordingly, the subject-matter of present claims 1, 21 and 27 does not meet the requirements of Article 33(2) PCT.

2. Dependent claims 2-20 and 22-26 do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step.

## SECTION VII

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1, D4, D7 and D8 is not mentioned in the description, nor are these documents identified therein.
2. The statement "the content of which are hereby incorporated by reference" (cf. page 10, lines 16-17) contradicts the requirements of Rules 5.1(a)(iii) and 9.1(iv) PCT.